

CLAIMS:

What is claimed is:

- Sub A
1. A method in a data processing system for isolating failing hardware in the data processing system, the method comprising:
 - responsive to detecting a recovery attempt from an error for an operation involving a hardware component,
 - 10 storing an indication of the attempt; and
 - responsive to the error exceeding a threshold, placing the hardware component in an unavailable state.
 2. The method of claim 1 further comprising:
 - 15 clearing the unavailable state of the hardware component in response to a hot-plug action replacing the hardware component.
 3. The method of claim 1, wherein the placing step
 - 20 comprises:
 - making a call to a hardware interface layer to place the hardware component into a permanent reset state.
 4. The method of claim 1, wherein the indication is
 - 25 stored in an error log.
 5. The method of claim 1 further comprising:
 - responsive to a selected number of recovery attempts occurring, recreating the error.
 6. The method of claim 1, wherein the error is an error caused by a PCI bus operation.

Sub A

7. The method of claim 1, wherein the detecting and placing steps occur in a firmware layer within the data processing system.

5

8. The method of claim 1, wherein the detecting step occurs in a device driver and placing steps occurs in a firmware.

10 9. The method of claim 1, wherein the threshold is the error successively a selected number of times.

10. A method in a data processing system for handling errors, the method comprising:

15 responsive to an occurrence of an error, determining whether the error is a recoverable error;

responsive to a determination that the error is a recoverable error, identifying slots on the bus indicating an error state;

20 incrementing an error counter for each identified slot; and

responsive to the error counter exceeding a threshold, placing the slot into a permanently unavailable state.

25

11. The method of claim 10 further comprising:

responsive to the error counter failing to exceed the threshold, placing the slot into an available state, wherein a device within the slot resumes functioning.

Sub A
12. A data processing system comprising:

a bus system;

a communications unit connected to the bus system;

a memory connected to the bus system, wherein the

5 memory includes a set of instructions; and

a processing unit connected to the bus system,

wherein the processing unit executes the set of

instructions to store an indication of a recovery attempt

from an error in response to detecting the recovery

10 attempt; and place the hardware component in an

unavailable state in response to the error exceeding a

threshold.

13. A data processing system comprising:

15 a bus system;

a communications unit connected to the bus system;

a memory connected to the bus system, wherein the

memory includes a set of instructions; and

a processing unit connected to the bus system,

20 wherein the processing unit executes the set of

instructions to determine whether the error is a

recoverable error in response to an occurrence of an

error; identify slots on the bus indicating an error

state in response to a determination that the error is a

25 recoverable error; increment an error counter for each

identified slot; and place the slot into a permanently

unavailable state in response to the error counter

exceeding a threshold.

Sub A1

14. A data processing system for isolating failing hardware in the data processing system, the data processing system comprising:

storing means, responsive to detecting a recovery attempt from an error, for storing an indication of the attempt; and

placing means, responsive to the error occurring in the more than a threshold for a hardware component, for placing the hardware component in an unavailable state.

15. The data processing system of claim 14 further comprising:

clearing means for clearing the unavailable state of the hardware component in response to a hot-plug action, replacing the hardware component.

16. The data processing system of claim 14, wherein the placing means comprises:

means for making a call to a hardware interface layer to place the hardware component into a permanent reset state.

17. The data processing system of claim 14, wherein the indication is stored in an error log.

18. The data processing system of claim 14 further comprising:

recreating means, responsive to a selected number of recovery attempts occurring, for recreating the error.

19. The data processing system of claim 14, wherein the error is an error caused by a PCI bus operation.

Sub A1

20. The data processing system of claim 14, wherein the detecting means and the placing means are located in a firmware layer within the data processing system.

5

21. The data processing system of claim 14, wherein the detecting means is located in a device driver and the placing means is located in a firmware.

10

22. The data processing system of claim 14, wherein the threshold is the error successively a selected number of times.

15

23. A data processing system for handling errors, the data processing system comprising:

determining means, responsive to an occurrence of an error, for determining whether the error is a recoverable error;

20

identifying means, responsive to a determination that the error is a recoverable error, for identifying slots on the bus indicating an error state;

incrementing means for incrementing an error counter for each identified slot; and

25

placing means, responsive to the error counter exceeding a threshold, for placing the slot into a permanently unavailable state.

30

24. The data processing system of claim 23, wherein the placing means is a first placing means and further comprising:

Sub A1

second placing means, responsive to the error counter failing to exceed the threshold, for placing the slot into an available state, wherein a device within the slot resumes functioning.

5

25. A computer program product in a computer readable medium for isolating failing hardware in the data processing system, the computer program product comprising:

10 first instructions, responsive to detecting a recovery attempt from an error, for storing an indication of the attempt; and

second instructions, responsive to the error occurring in the more than a threshold for a hardware component, for placing the hardware component in an
15 unavailable state.

26. The computer program product of claim 25 further comprising:

20 third instructions for clearing the unavailable state of the hardware component in response to a hot-plug action replacing the hardware component.

27. The computer program product of claim 25, wherein
25 the placing step comprises:

third instructions for making a call to a hardware interface layer to place the hardware component into a permanent reset state.

30 28. The computer program product of claim 25, wherein the indication is stored in an error log.

Docket No. AUS920010142US1

29. The computer program product of claim 25 further comprising:

third instructions, responsive to a selected number of recovery attempts occurring, for recreating the error.

5

30. The computer program product of claim 25, wherein the error is an error caused by a PCI bus operation.

31. The computer program product of claim 25, wherein the detecting and placing steps occur in a firmware layer within the data processing system.

32. The computer program product of claim 25, wherein the detecting step occurs in a device driver and placing steps occurs in a firmware.

33. The computer program product of claim 25, wherein the threshold is the error successively a selected number of times.

20

34. A computer program product in a computer readable medium for handling errors, the computer program product comprising:

first instructions, responsive to an occurrence of an error, for determining whether the error is a recoverable error;

second instructions, responsive to a determination that the error is a recoverable error, for identifying slots on the bus indicating an error state;

third instructions for incrementing an error counter for each identified slot; and

fourth instructions, responsive to the error counter

Docket No. AUS920010142US1

Sol A'
exceeding a threshold, for placing the slot into a permanently unavailable state.

35. The computer program product of claim 34 further
5 comprising:

fifth instructions, responsive to the error counter failing to exceed the threshold, for placing the slot into an available state, wherein a device within the slot resumes functioning.